

# RURAL AND SUBURBAN

## SWEET PEA CULTURE

At this time of the year with the lengthening of the days and the increasing warmth of the sun, when verdant life is soon to be aroused from its long winter sleep, the lover of the beautiful in nature begins to make plans for the beautifying of the home surroundings in the way of boulevards, green swards and flower beds. It is difficult to conceive of a pastime more healthful and recreative mentally and physically; more elevating intellectually and morally, than the cultivation of flowers. To assist nature in ministering to the wants of this new creation, to watch it grow from an apparently inanimate seed into leaf and branch and develop into the full grown plant crowned with magnificent bloom awakens in ones bosom sentiments, the purest conceivable, aspirations the loftiest imaginable, such as can be appreciated only by those who have experienced them.

### Good Seed Necessary

A history of the sweet pea from the year A.D. 1700, when it was first introduced into England from Sicily, on down through the years to the close of the last century when the Eckfords and Burpees gave us the present grandiflora type would be of interest. But much as we may be tempted, time and space compel us to restrain our desire in that direction and confine our attention to the cultivation of this most beautiful flower.

The first essential is good seed. Last year several persons drew the writer's attention to the fact that their sweet peas did not grow, and inquired the cause. Clearly the cause lay in the fact that the seed was no good. Those who buy sweet pea seed that has no other known merit than being cheap, cannot expect to get seed of the highest germinating quality, or that which will produce the finest type of bloom.

Many ways of growing this flower during the past two decades have been advocated. A few years ago in the Southern and Middle States, what is known as the trenching system struck the sweet pea enthusiasts; and it struck many of them hard before they were through with it. Trenches two or three feet deep were dug, with six inches of stone placed in the bottom for drainage, the balance being filled with alternate layers of manure and rich soil. This method had not been in vogue many years when a great cry arose. Blight had struck the sweet peas—something never heard of before. Rev. W. T. Hutcheson, the great pea expert, was the first to direct attention to the cause. He declared that the trenching system, which was nothing short of a hot bed, had so debilitated the successive generations of the plant by forcing it into an unnatural growth, that it was susceptible to attack from disease, and had not sufficient vitality to withstand it.

We in Canada were more fortunate as our summers are cooler than in the Southern States. Nevertheless, even in this country, if trench-grown sweet peas were to propagate their own kind, the time would soon come when the sweet pea as we know it today would be known no more forever. But as this system is not now in vogue among commercial growers, those who buy their seed may safely practice it on a limited scale here in the cooler climate.

### Preparing the Trench

As early in the spring as the ground can be worked select a part of the garden affording good drainage and plenty of sunshine (but not on the south side of a high board fence or wall), and there dig a trench about 18 inches wide and as many deep. Into this put a liberal quantity of well rotted manure and an equal quantity of earth, and mix well together. Mix until it looks like earth, after which tramp it down firmly with the feet. Repeat this until about two inches of the top. If bonemeal can be obtained it is preferable to manure for mixing with the top layer of earth.

Having prepared the bed, run two drills through the centre about four inches apart and two deep. Sow the seed evenly but rather thickly, say, one ounce to every fifteen feet of drill, in order to ensure a good stand, and when the young plants are well started, if quality is preferable to quantity—that is if the very largest and finest type of bloom is desired, thin the plants to stand one in a place and about three inches apart in the row. Cover the seed with two inches of fine soil, firming (not tramping) down well with the foot or the flat of the hoe.

### The Early Period

The first six weeks of the sweet pea's existence from the time of germination is largely taken up with root formation—the building of that firm foundation upon which the magnificent superstructure is to be reared. Herein is to be found the reason for the vine not growing more than four or five inches in almost as many weeks after it first appears above the ground.

At this time do not give any water, as there is usually a sufficient amount in the ground to supply all the moisture necessary during this period. After the plants have been above ground for four or five weeks water may be given with a lavish hand, always thoroughly soaking the ground, but not frequent enough to make the ground soggy. Keep the surface soil loose to a depth of several inches by frequent hoeing, which prevents evaporation and allows the air to penetrate to the roots.

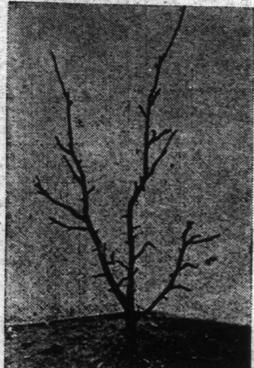
When the weather becomes hot and dry spread about the vines a layer of grass clippings (if you rake your lawn), to a depth of two inches, or half rotten manure, pine needles or anything that will conserve the moisture by excluding the hot rays of the sun while, at the same time admitting the air, will answer the purpose.

Give support to the vines very early. For

this purpose ordinary brush is the most satisfactory as it allows the vines to grow in a more open way than is possible by any other method. Poultry netting four feet high makes a very good support. But in the hot days of summer the wire is liable to become so heated that it will burn the tendrils. Stakes driven in the ground every four feet with stout twine running from one to the other ever six inches is preferable to wire netting.

### The Sweet Pea's Enemies

The sweet pea has but few enemies, the two worst being the red spider and the green



1.—A young tree that gives promise of making a shapely specimen as time progresses. Note how the growths have been cut back and how the leading shoots are growing in an outward direction.

aphis. The former feeds on the under side of the leaves, turning them a dull grey color. It is such a minute thing that it can scarcely be detected by the naked eye. A fine spray from the hose applied with considerable force to the under side is the best remedy. Soap suds may also be used by those who have no system of waterworks.

The green aphid feeds by sucking the juice from the tips of the young shoots and as they multiply very rapidly will soon destroy all the young growth unless measures are taken to prevent it. A good stiff spray from the hose whenever the peas are watered will keep them in check; or they may be killed by spraying with suds of ivory, whale oil or kerosene soap.

The cut worm is another enemy of the sweet pea. In fact it is the enemy of almost every plant that grows. It cuts its victims off near the ground as though done with a sharp knife. Poisoned bran will rid your bed of them. Take half a teaspoonful of paris green and one quart of bran, mix thoroughly in the dry state then moisten with water and sprinkle around the bed where the cut worms are known to be. An early morning hunt with a sharp stick will discover him about two inches below the surface of the ground near the scene of his destruction.

The sparrow may also be numbered among the enemies of the flower. When the plants are first coming above the ground these birds will pull them off by the hundred in their effort to get at the seed below. The writer had a whole row almost totally destroyed before the cause of the trouble was ascertained. Cover the row with a strip of thin cotton or cheese cloth for a few days, after which they will leave them alone.

### "Rotation of Crops"

Do not plant sweet peas in the same place two years in succession. This plant is a gross feeder and certain elements necessary to its proper development become exhausted. But a year's rest will restore these needed elements so that the ground may be used for this purpose every alternate time.

The best time to prepare the sweet pea bed is in the fall. Prepare it in all respects the same as in the spring except that a liberal quantity of wood ashes may be mixed in the soil along with the fertilizer. The potash in the ashes helps to make a good firm stock. Fresh ashes should never be put on the bed in the spring as the lye is liable to burn the plants. Do not tramp the soil as is done with the spring prepared bed. It will settle itself sufficiently during the winter months. Instead of leaving a depression of a couple of inches fill the bed level or have it slightly rounded, so that it will not fill with water, and will dry away early in the spring when all that is necessary is to make the drill and put in the seed, which can be done much earlier than would be the case if the ground had to be thoroughly worked.

Many people will say that they have grown sweet peas—beautiful sweet peas—without half this trouble. And so they have. The sweet pea is a beautiful flower, no matter where it is found. In its original haunts in Sicily, long before the hand of the hybridizer began its work of transformation, when it bloomed only for the wild bees of its native land, it was a beautiful thing. And those who are satisfied with the sweet pea in its original beauty may have it with very little trouble. But they are living in a past age. However, this article has been written for those who are anxious to obtain the best that can be produced—the highest possibilities of the grandiflora type.—C. Mortimer Bizzo.

Rhubarb has been the standby for the Western farmers' table; but it is being supplement-

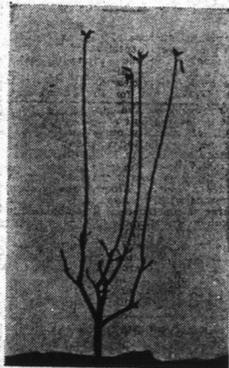
ed by many of the small fruits that respond to fair treatment in the Western climate, such as currants, gooseberries, strawberries and raspberries.

## PRUNING AND TRAINING DWARF FRUIT TREES

Last week notes and illustrations dealing with standard pear trees were given; but, in the present instance, it is desired to call attention to the pruning and training of bush trees, a form of fruit trees that is most popular with owners of small gardens, and deservedly so. It is not everyone that has the necessary space to grow many standard fruit trees satisfactorily; but most lovers of the garden who are interested in fruit culture can find accommodation for a fairly good number of trees of bush or pyramidal form.

Readers should distinctly understand the difference between trees of bush form and those of a pyramidal character. The latter are most attractive in appearance when properly pruned and trained, but considerable care and attention are necessary if really symmetrical trees are to be brought into effect. Bush trees usually produce a good yield of fruit without taking up much space in the garden, and their chief difference from trees of pyramidal form is that they do not have a central leading shoot, the centre of the tree being kept open. By adopting this method of culture the side branches become strong and erect. Apples take more kindly to this method of pruning and training than any of the other equally popular hardy fruits, although they—plums, cherries and pears—not seldom succeed very well under similar treatment.

There are simple rules of pruning which every beginner should be most careful to observe. The first is to cut back the weakest shoots the more severely, as by so doing the new shoots that subsequently develop will break away stronger and larger as a consequence. Readers who are at all observant may have noticed that when weak shoots are only topped or cut back lightly, the shoots that subsequently evolve are of a very weak character, which means laying a bad foundation for future work. In the second place, remember, when pruning, to leave the bud on the outside



2.—Young bush apple tree with four leading shoots. The latter should be cut back to within 15 inches of their base; this will continue the method of training usually observed with this form of tree.

of the shoot, so that as it develops its growth an outward turn may be ensured.

The trees portrayed in the present instance were photographed in the garden of an enthusiastic amateur fruit-grower, whose trees invariably bear heavy crops of fruits. The garden is within five miles of the metropolis. In Fig. 1 a young tree that is well established is shown. It is growing in good soil, and gives

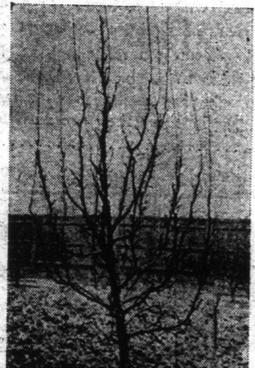


3.—A bush-trained tree a few years older than those shown in Figs. 1 and 2. This shows the method of training bush apple trees.

promise of making a shapely tree as time progresses. There are not as many side branches as one would like to see, but it serves the purpose of illustrating the pruning and training of a bush fruit tree in its earlier history. The

great thing to remember when pruning is to keep the centre of the tree open; cut back branches that cross one another unduly or that turn inwards. Light, air and sun can each then contribute its share towards a successful issue. Always use a sharp knife when pruning.

Fig. 2 is a good representation of a bush-trained apple tree. Varieties of apples differ in their character of growth, and should be pruned accordingly. The four leading shoots in this illustration will give the reader a very good idea how a tree of bush form can be properly developed. The pruning-knife has to be



4.—A typical pyramid apple tree with numerous fruit-spurs along the matured branches.

used to shorten back the leaders to within, say, 15 inches of their base. If cut just above an outside bud in each instance, the growths that will subsequently evolve will go to make a shapely tree and also ensure the shoots being well ripened. By observing this method of procedure there should be a good number of main shoots in the succeeding season, which, if treated in similar fashion when winter pruning is again necessary, should bring into being a bush tree of good form.

In order to illustrate the evolution of a tree grown in bush form, a specimen a year or two older than the one seen in Fig. 2 is shown in Fig. 3. It will be observed that the method of training advocated earlier in these notes has been continued, and that, as a result of careful pruning on the lines laid down, a really excellent little tree has been brought into existence. The leading shoots will be cut back almost immediately, and a shapely specimen thereby ensured. It is from these leaders that the shape of the bush trees and their progress are made.

Fig. 4 gives a fairly good representation of a bush apple tree. This is a specimen of good proportions, with numerous fruit-spurs indicated freely along the matured branches, and with the leaders not yet shortened back. From this picture it is easy to see how, by a system of progression, a large specimen tree may be trained, and how easy it is to grow quite a lot of fruit even in a small garden.—D. B. C. in The Garden.

## SOWING GARDEN SEEDS

The success of our seeds generally depends upon how we treat them for germination. Failures and complaints of bad seeds are quite common. We are too apt to lay fault on the individual who furnishes the seed, condemning his seed as rubbish. I would not give the seed trade immunity altogether, but the non-germinating of seed is often due to our own negligence.

For flower seeds good, clean pots and boxes are essential. Boxes three inches deep with several holes bored in the bottom for an outlet for water, and made a convenient size, are first-class for seeds or plants. A good layer of rough leaves, rotted manure, pieces of broken flower pots, oyster shells or rough ashes should be at the bottom of the pots or boxes, then fill up moderately firm with fine soil to within an inch of the top. A mixture of loamy soil, sand and leaf soil make a suitable compost.

We have failed as yet to procure sieves from any of the leading seed firms for the purpose of grading or sifting the soil for seed sowing. For this purpose a fine mesh of mosquito netting will do by nailing a two-inch board round a square of it. Chicken netting, half-inch mesh, will also make a good sieve for sifting soil. With boxes, a flat board will make an equal level for the soil; for pots, anything round and flat is sufficient.

For very small seeds, such as begonia, glorioxia, lobelia, antirrhinum and coleus, water the seed receptacles with a fine rose can an hour prior to sowing. A mere dusting of fine soil is sufficient covering. The size of the seeds will almost determine the covering of the soil required. Begonia seed does not require any, coleus requires very little, while castor oil plant and sunflower want half an inch of soil.

A piece of glass should be laid over the seed pot or box, also a piece of brown paper before the seedlings appear, then gradually withdraw it when the seed receptacles become very dry. Do not apply a shower bath overhead, but hold the seed pot half way down in a pail or tank of tepid water. The water will thoroughly saturate the soil from the bottom, finding its way to the surface. This will be sufficient for a good many days, and better than daily dabbles on the surface. Seedlings like

to be kept tolerably dry before they gain strength. With a good sunny window, many fine plants can be raised, then remove to a frame outdoors.

Any haphazard or slipshod fashion with vegetable seeds will only result in disappointment. The ground is best forked over the day it is to be sown. A fine open mould, neither too wet nor dry, is best. Gardeners on a small scale should prepare a fine tilth of soil, raked level.

The alert gardener will take the first opportunity of a good day to sow onions, parsnips, carrots, beets, turnips, cauliflower, cabbage and parsley. All these will do with half an inch of covering. The culinary peas and flowering sweet peas require very early sowing, three inches deep. Label all seed correctly and give date of sowing.

Before we convict the dealer of bad seeds, let us consider if we have done justice in the preparation of the soil and the seed bed, having climate and price of seed duly noted. Buy from reputable seed firms.—Canadian Horticulturist.

## APPORTIONING YARD MANURE

A point of importance in connection with the application of farmyard manure is its limited quantity. There are, it is true, several sources of bulky natural manures, such, for example, as accumulations of weeds, haulm, road-scrappings, pond and ditch cleanings, composts, and the like, rich in organic and earthy matter, which may supplement the manure heaps. By this assistance several acres may receive a dressing of fertilizing matter of great value, but this must not be confused with the regular output of farmyard manure, which is practically limited by the areas of straw, hay, and fodder generally, from which it is derived.

Incidentally the quantity is closely related to the number of live stock maintained, but any calculation as to the actual amount produced is beset with difficulties. It has been computed that one ton of straw, when trodden down by cattle, saturated with moisture, and supplemented by food residues, will produce four tons of fresh manure, and as an acre of corn will yield on an average one ton of straw, it is evident that 200 acres of corn will on this assumption give 800 tons of fresh manure. This is about the proportion of green fodder to dry hay or straw, and has been accepted as a basis for estimation, but must vary considerably, and in some measure must depend upon the amount of straw cut up into chaff and used as food, which, on many farms, is considerable. It is also affected by the degree of fermentation and consequent loss of weight from rotting, and each qualifying circumstance seems to reduce, rather than increase, the amount.

The point does not allow of a rigid conclusion, and the principal use of the estimate is to show how limited is the maximum production of dung on a farm; for 800 tons would only supply two tons per acre over the entire area of arable land, and leave none for meadows. If farmyard manure is only applied once in four years, eight tons per acre is all that could be available, which is a very moderate allowance. It is, therefore, evident that only one-eighth of the arable land can receive a dressing of sixteen tons to the acre in any one year, and this points to the necessity of apportioning the amount available to the best advantage.

Of late years there has been a tendency to reduce the dressings to ten or twelve tons to the acre, and as a single horse load of partially rotted manure weighs about 13cwt, this implies dressings of from fifteen to sixteen loads per acre. Taking the former weight, the total amount would serve for eighty acres of land, and the question is, where should it be bestowed? The two crops which most decidedly seem to need this manure are roots and wheat, 100 acres of each on a four-course, and eighty acres of each on a five-course system of cropping. The longer rotation, however, involves a smaller area of corn and roots, and consequently less dung, so that the four-course is more consistent with the assumption of 800 tons of farmyard manure produced per annum. It is, therefore, evident that either the roots or the wheat must to some extent do without it, and on this ground it is incumbent on the farmer to apply it where it is most wanted. In the first place potatoes, mangolds, and any root crops which are meant to be carried off the land ought to be dunged; while more distant fields, on which the roots are intended to be eaten on the land by sheep, may be treated with superphosphate and other artificial manures.

As to wheat, it may be unnecessary to apply yard manure when the land has been previously thus treated for roots, but clover leys, especially when they have been mown, ought to receive it as far as possible. If one-third of the root land and half the land intended for wheat get fifteen loads per acre the supply will be exhausted, and this seems to agree fairly with the practice of the best farmers, who manure the root land near the building, or wherever it is intended to strip them off the land, and as much wheat land as possible, where it has not been close-folded.

Another consideration of importance arising from the limited supply is the necessity of employing artificial manures in order to make up the deficiency of home-made material. Disparaging comparisons between yard manure and artificials are quite out of place when both are not only necessary, but are also mutually helpful. There can be no doubt that excellent root crops can be grown with superphosphate and other fertilizers, and if these are consumed on the land by sheep the soil is brought into very good condition for corn. Examples could be readily given of wide-lying farms in which the fertility of more distant and inaccessible fields has been kept up for many years by this system.

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